3 Sheets—Sheet 1.

# A. LOWMILLER.

## Wool-Press.

No. 220,980. Patented Oct. 28, 1879.

FIG. 1.

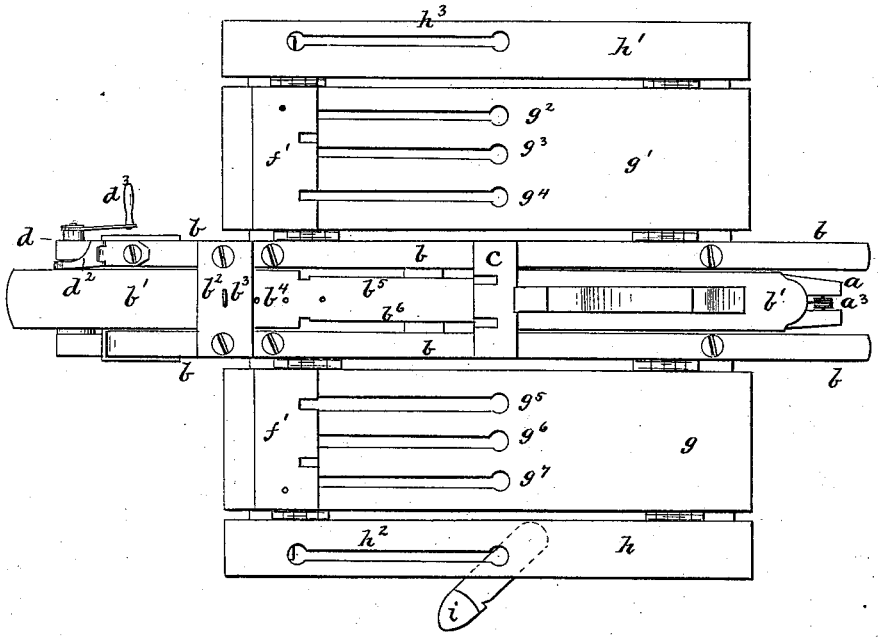


FIG. 2.

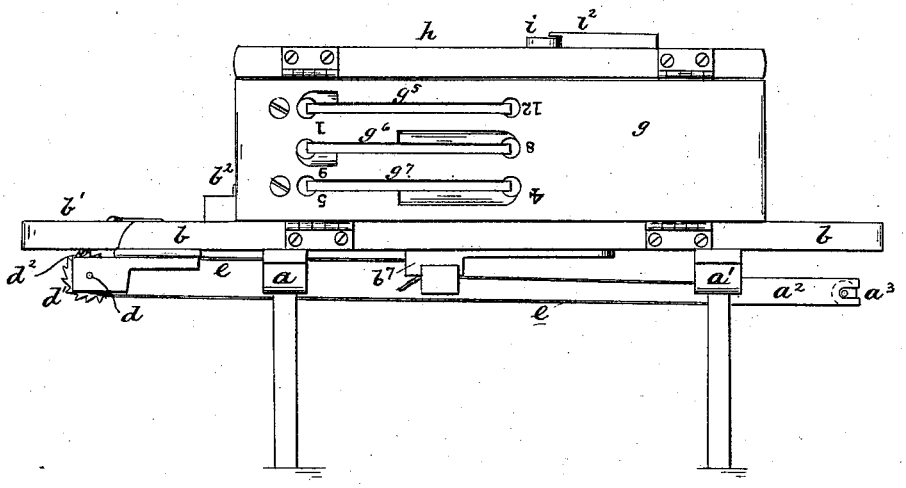


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FIG. 3.

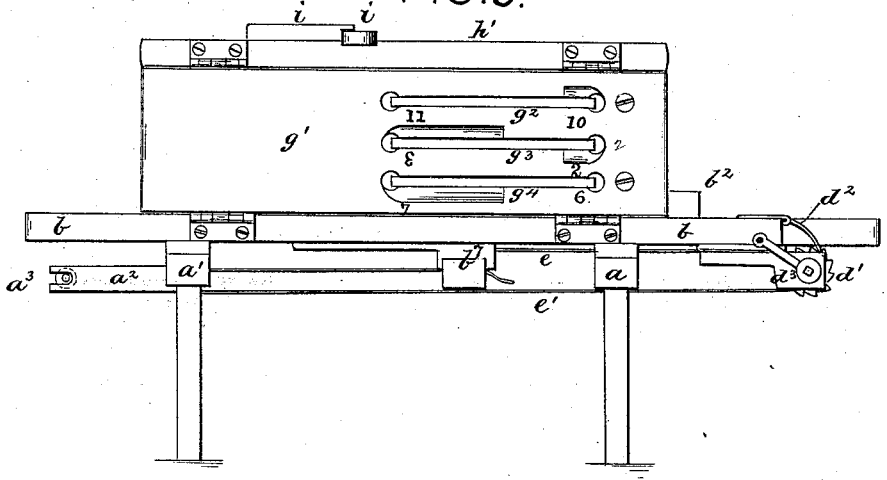


FIG. 4.

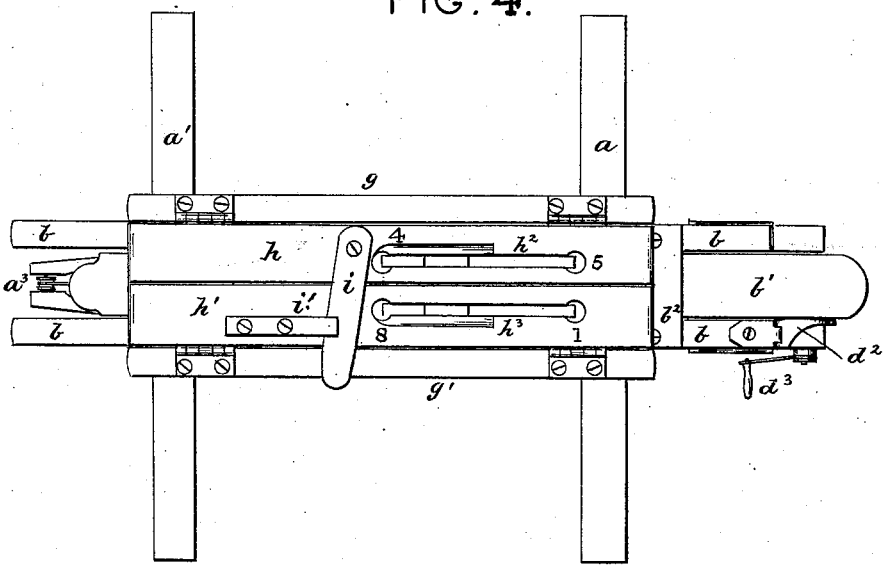


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FIG. 5.

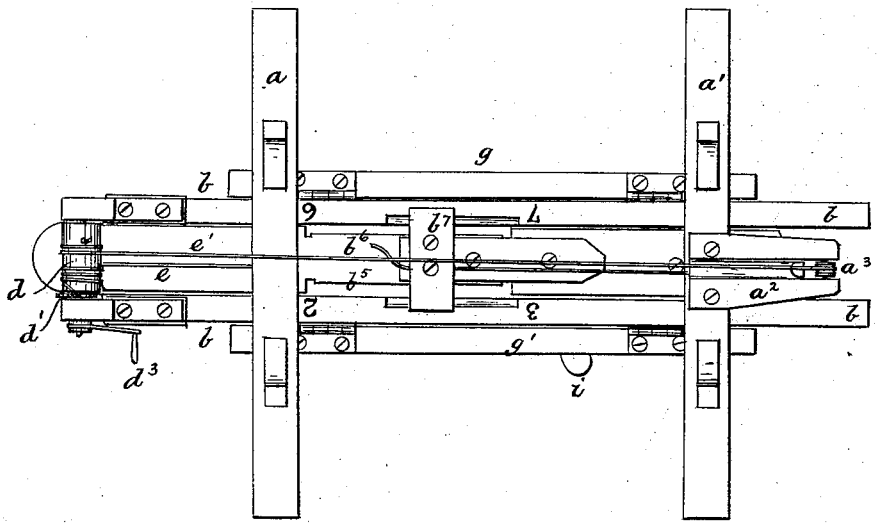



FIG. 6.

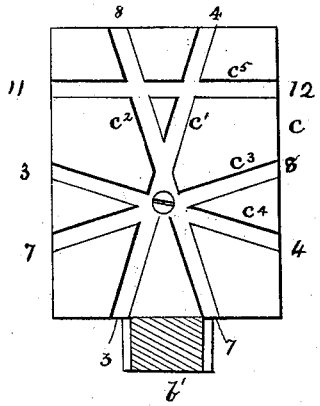



FIG. 7.

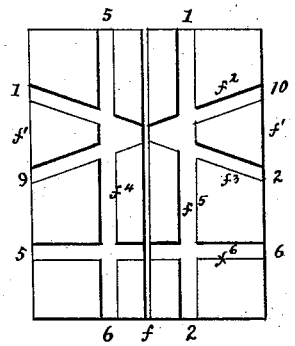
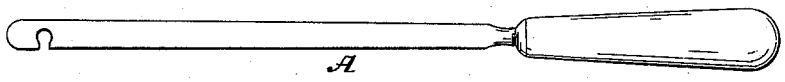



FIG. 8.

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# UNITED STATES PATENT OFFICE.

ALPHEUS LOWMILLER, OF JEWETT, OHIO.

## IMPROVEMENT IN WOOL-PRESSES.

Specification forming part of Letters Patent No. **220,980**, dated October 28, 1879; application filed April 21, 1879.

*To all whom it may concern:*

Be it known that I, ALPHEUS LOWMILLER, of Jewett, in the county of Harrison and State of Ohio, have invented certain new and useful Improvements in Wool-Presses; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention consists in the manner of constructing the press-chamber with a series of folding leaves hinged to two guide-bars, between which slides a bar, to which is fixed the follower; and in the peculiar manner of constructing the follower and head-block; and in the manner of operating the device; and in other mechanism, all of which will be hereinafter fully explained, and pointed out in the claims.

In the drawings, Figure 1 is a plan with the leaves unfolded. Figs. 2 and 3 are elevations from opposite sides of the press folded. Fig. 4 is a plan of the press folded. Fig. 5 is an under-side view. Figs. 6 and 7 show the peculiar manner of grooving the follower and head-blocks, and Fig. 8 is the needle by which the twine is passed through the box and around the fleece.

*a a'* are trestles or supports, on which are mounted the several parts of my press. To the rear trestle, *a'*, I affix a short arm, $a^2$, which projects rearward and horizontally, and has journaled in its outer end a friction-pulley, $a^3$.

*b b* are two guide-bars fixed centrally on top of the trestles *a a'*, and far enough apart to permit the sliding presser-bar *b'* to be placed between them, with capability of being moved readily to and fro. $b^2$ is a cleat fixed to the guide-bars *b*, near to the forward end of the machine and over the presser-bar *b'*, for the purpose of holding the latter from tilting up when a fleece is being pressed. Through the cleat I pass a small pin, $b^3$, which may be put down into one of a series of holes, $b^4$, in the bar *b'*, for the purpose of holding the latter fixed in position and relieving the operating roller and cord from continued strain, while the twine is being applied around the fleece. The presser-bar *b'* has formed in its edges the longitudinal mortises $b^5$ $b^6$, through which the cord for tying the fleece is put in the operation of cording the latter.

*c* is the follower-block, which projects laterally over and is flush with the outer edges of the side bars, *b*, and it is moved to and fro with the bar *b'*, on which it is rigidly fixed and braced, as shown. It has formed in its face the series of grooves or channels *c' c² c³ c⁴ c⁵*, as shown. The grooves *c' c²* extend from top to bottom, and are crossed, as shown, and the grooves $c^3$ $c^4$ are crossed and have their ends which are farthest from the bottom arranged at the center of the follower *c*. The follower is oblong in shape, and by the arrangement of the grooves as described I am enabled to put three cords around the fleece, crossing them, so that they cannot be slipped off by handling.

*d* is a roller or windlass having a ratchet, *d'*, engaged by a pawl, $d^2$, and turned by a crank, $d^3$. It is fixed on the under side of the bars *b b* and at the ends opposite to the pulley $a^3$.

*e e'* are the operating-cords, which have their ends fixed to the roller or windlass *d*. The cord *e* is carried back from the roller through a suitable hole in the trestle *a*, and has its other end fixed in a suitable fastening, $b^7$, on the under side of the presser-bar *b'*. By cord *e* the presser-bar is drawn forward, so as to bring the follower against the fleece. The cord *e'* is carried back from the roller under the press-box, and upward around the pulley $a^3$, and forward through an opening in the trestle *a'*, and has its end secured by the fastening $b^7$. By cord *e'* the presser-bar *b'* and follower *c* are drawn back from the fleece after the latter has been tied, and another fleece is to be spread upon the unfolded table. The ends of the cords *e e'* are secured by the fastening $b^7$, so that they may be taken up or let out for the purpose of tightening or loosening the tension, as may be required.

*f* is the head-block, between which and the follower *c* the fleece is pressed. It is divided vertically into halves *f' f'*, which are secured to the hinged sides or leaves *g g'*, so that when the latter are folded up they will be brought

together, as shown in Fig. 7, and form a block of same form and size as the follower *c*. They also unfold with said leaves, as shown in Fig. 1.

The guide-bars *b b* are made just heavy enough to afford a substantial jamb to which to fasten the hinges of the leaves, and they are made very narrow in order that the presser-bar *b'* may be given the greatest possible width.

The head-block is divided, because if made in one piece, as in ordinary machines, it could not be secured to the upper edges of the bars *b* and over the presser-bar *b'* with sufficient firmness to give it the required stability and strength. Divided in halves, it is secured to the sides of the press-box, and when folded it has the cleat $b^2$ at its back, so that it has all the requisite firmness in its position. When unfolded its halves form a breastwork and extended guide, by which the untied fleece may be more easily arranged, and its fibers drawn together, preparatory to folding and pressing.

The head-block has formed in it the grooves or channels $f^2$, $f^3$, $f^4$, $f^5$, and $f^6$. The channels $f^2$ $f^3$ are formed so as to cross each other, and are arranged in the upper portion of the block; the other channels are made parallel with the sides and end of the block. By the arrangement of the channels as described, I am enabled to tie the fleece so that it will be preserved in a rectangular form, so that it can be packed with others of like form, and a greater quantity of wool be stored in a given space than can be done with fleeces tied in the ordinary way.

*g g'* are the leaves. They are hinged to the guide-bars *b b*, and fold up against the vertical sides of the follower *c*, and bring together the halves of the head-block secured thereto, as hereinbefore indicated. $g^2$, $g^3$, $g^4$, $g^5$, $g^6$, and $g^7$ are horizontal slots formed through the leaves *g g'*, and are so arranged that when the said leaves are folded they will be opposite the ends of the channels $c^5$ $c^3$ $c^4$ in the follower, and the ends of the channels $f^2$ $f^3$ $f^6$ in the head-block. These slots have their edges beveled, as shown in Figs. 2 and 3, so that the needle which carries the twine may be readily inserted in the inclined or diagonal channels $c^3$, $c^4$, $f^2$, and $f^3$.

*h h'* are small leaves hinged to the outer edges of the leaves *g g'*, and they fold over, their edges coming together, and form the top of the press-box. They have formed through them slots $h^2$ $h^3$, which correspond with the slots $b^5$ $b^6$ in the sliding bottom or presser-bar *b'*, and are opposite the ends of the channels $c'$ $c^2$ $f^4$ $f^5$, so that the twine may be put around the fleece from top to bottom.

When the box is folded it is held by a clamp, *i*, pivoted to leaf *h*, and hooked over the outer edge of leaf *h'*, and held by a retaining cleat or button, *i'*, as shown.

In the construction of the bottom of the box, as shown in Figs. 1 and 5, I have shown the slots $b^5$ $b^6$ as formed by cutting out a portion of the edges of the presser-bar; but it will be readily understood that these slots may be formed through said bar when the latter is made wider than is indicated. On the other hand the slots could be formed in the edges of or through the bars *b*, when the latter are made wider than indicated, and the presser-bar narrower.

In constructing my machine I have had in view the formation of a sliding bottom for the box, by which the wool could be compressed without being moved over the surface of the bottom on which the fleece rests. The moving of the loose wool over a fixed board often tears the fibers apart and gives to the outer sides of the fleece a ragged appearance. This difficulty occurs more on the bottom of the fleece, because of the gravity thereof holding it to the board.

A further object was to apply the power at the point where the compressing is done. In ordinary devices of this class the power is applied to an extended arm connected with the follower, and when the greatest force is required there is a severe strain put upon said arm, and it tends to bend laterally, thereby becoming weakened in its operation.

These difficulties are obviated in my device. The bottom is made movable, and the power is applied immediately below the fleece. I have a simpler machine, one more easily constructed than the ordinary wool-press.

After the fleece has been compressed the twine is applied as follows, reference being made to Figs. 2, 3, 6, and 7: The needle A, Fig. 8, having a suitable hook or eye in its end, is employed for passing the twine from side to side through the press-box.

It will be seen that the slots $g^2$, $g^3$, $g^4$, $g^5$, $g^6$, and $g^7$ have their ends numbered from 1 to 12, and the ends of the grooves or channels $f^2$ $f^3$ $f^6$ and $c^3$ $c^4$ $c^5$ in the head-block and follower are correspondingly numbered. This is done for convenience in illustrating the process of cording the fleece, and the numbers of the ends will be employed instead of the letters of the slots.

The cord is first entered at 1, and is passed through channel $f^3$ and out at 2; thence it is carried to 3 and put through to 4; thence to 5 and through to 6; thence to 7 and through to 8; thence to 9 and through to 10; thence to 11 and through to 12, and the ends are tied in slot $g^5$, between the ends 1 and 12. By this process I employ a single cord, which is passed three times around, crossed on the ends, and so arranged as to hold the fleece in its cubical form.

The cord is put from top to bottom as follows, reference being made to Figs. 4, 5, 6, and 7, the ends of the slots $b^5$ $b^6$ and $h^2$ $h^3$ being numbered from 1 to 8. The cord is entered at 1 in slot $h^3$, and is carried through channel $f^5$ and out at 2, slot $b^5$; thence it is carried to 3, and through channel $c'$ and out at 4; thence to 5, and through channel $f^4$, and out at 6; thence to 7, and through channel $c^2$, and out at 8. The ends are then tied in slot $h^3$, between 1 and 8.

A single cord is thus passed twice around

the fleece over top and bottom, and when both cords, hereinbefore described, are put around as described, the fleece, when taken from the press, will retain its cubical form.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a wool-press, the head and follower blocks constructed with a series of grooves or channels, a part of which are cut or formed diagonally and cross each other, and the other part of which are formed parallel to the sides and ends, in combination with the top, bottom, and sides of the press-box, which have longitudinal slots arranged opposite the ends of the channels in the head and follower block, substantially as and for the purpose set forth.

2. A press-box having a sliding bottom and follower affixed thereto, and held between guide-bars $b$ and by cleat $b^2$, and having the head-block divided in halves and secured to the hinged sides $g$ $g'$, to which are hinged leaves $h$ $h'$, and held by a clamp, $i$ $i'$, substantially as and for the purposes set forth.

3. The combination, with the sliding bottom $b'$, having fastening $b^7$ on its under side, and follower $c$, of the bars $b$ $b$, cleat $b^2$, windlass $d$, cords $e$ $e'$, and pulley $a^3$, arranged to operate substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALPHEUS LOWMILLER.

Witnesses:

URIAH SIMMONS,

JAMES ADAMS.